IMAGE-READING DEVICE

FIELD OF THE INVENTION

The present invention relates to an image-reading device which reads image data from an original that is supplied to an image-output apparatus such as a digital copying machine and a printer. More particularly, it relates to a portable-type image-reading device that is provided as a device separate from that of the image-output apparatus.

BACKGROUND OF THE INVENTION

Conventionally, image-reading devices of the fixed type, that have an image-reading surface disposed upwards and that reads image data from an original placed face-down onto the image-reading surface, are well known.

These image-reading devices are designed so that an entire image that has been set onto the entire image-reading surface is converted into image data and outputted. Therefore, it is not convenient to use the image-reading devices of this type for reading only image data from originals having small sizes, such as articles of newspapers and books, or from one portion of the surface of an original.

In order to reduce the above-mentioned inconvenience, Japanese Laid-Open Patent Publication No. 198270/1990 (Tokukaihei 2-198270) has proposed a portable-type image-forming apparatus as an image-reading device that has a document-reading surface that is placed downward face to face with an original that is set face up so that it can read image data from the original.

This image-forming apparatus is provided with a scanner section and an image-display section, and the image data, read by the scanner, is displayed on the image-display section. Further, in the image-forming apparatus, when a particular region is specified on the display surface of the image-display section that is displaying an image read from an original, a trimming or masking process can be carried out with respect to the image on the display surface in accordance with the specified region.

However, the above-mentioned conventional image-forming apparatus has a problem in which, since the face of the original from which an image is to be read is covered with the apparatus, the operator cannot properly confirm the positional relationship between the image-reading surface and the original. Therefore, it is not until the image data from the original has been displayed on the image-display section that a judgement is made as to whether or not the positional relationship is an appropriate one.

For this reason, in the above-mentioned apparatus, the operator has to adjust the positional relationship based on his or her assumption when the positional relationship is not appropriate, and must make a judgement again after the image data, read from the original by the scanner section, has been again displayed on the image-display section. Thus, the problem of the above-mentioned apparatus is that it is difficult to determine the positional relationship readily as well as appropriately.

In addition, in the case when, for example, upon preserving news articles, an article is read together with the date and the newspaper's name thereof so as to output them onto one sheet of paper, or articles from a plurality of the newspapers are read on the same incident so as to output them onto one sheet of paper, the above-mentioned apparatus fails to provide accurate positioning with respect to the respective originals. Thus it is difficult to arrange the various image data in a proper manner to be read, since excess of margin portions tends to appear or since partially overlapped portions tend to appear among the images.

Conventionally, when a plurality of image data are combined together, after the image data of the respective originals have been outputted separately, the operator has to carry out cutting and pasting operations with respect to the necessary portions of the images on the respective sheets of paper.

Therefore, another problem of the above-mentioned apparatus necessitating such operations is that troublesome, time-consuming operations are required for arranging a plurality of images in a proper manner to be read.

In particular, in the case when newspapers are used as originals, since articles in newspapers are irregularly disposed, the above-mentioned operations, which are required after the image data have been outputted from the respective articles, become more troublesome in the above-mentioned apparatus upon preserving the respective articles in a proper state to be read.

SUMMARY OF THE INVENTION

It is therefore an objective of the present invention to provide an image-reading device which allows the operator to confirm the positional relationship between the image-reading surface and an original to be read, readily as well as accurately, and which is capable of outputting desired image data from the original, readily as well as accurately.

It is another objective of the present invention to provide a portable-type image-reading device which is capable of rearranging a plurality of image data from an original easily without any excess or loss, and which is particularly suitable for preserving-jobs of newspaper articles.

In order to achieve the above-mentioned objectives, the image-reading device of the present invention is provided with:

a case having an empty section and a reading-use window that faces the empty section and that is formed on one surface of the case; and

a scanner that is placed inside the case so as to face an original through the reading-use window and that reads the original and outputs image data from the original,

wherein the case is provided with a confirming-use window that is formed through the case so as to face the reading-use window with the empty section located in between.

In this arrangement, the case is placed on the original so that the reading-use window faces the original to be read. Thus, the scanner reads an image of the original through the reading-use window, and outputs the image data from the original.

In this case, the operator of the device can readily confirm by visual observation the original that is to be read by the scanner through the reading-use window, the empty section and the confirming-use window. Therefore, since the device allows the reading-use window to be placed on an appropriate position on the original, readily as well as easily, it becomes possible to output desired image data from the original, readily as well as accurately.

The above-mentioned device is further provided with an image storage section for storing the image data and an image-display section for displaying the image data that has been stored.

In this arrangement, after the scanner has carried out a reading operation from an original, the image data, read from the original, is stored in the image storage section, and